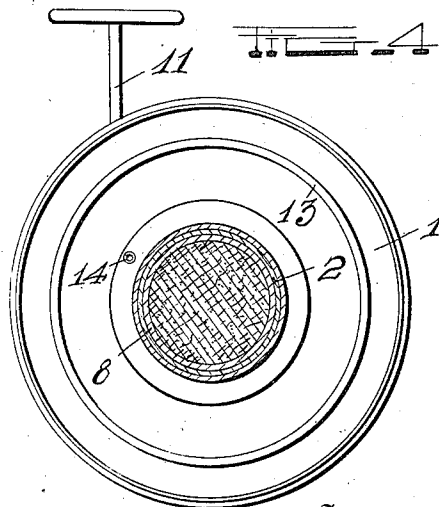
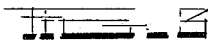


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UNITED STATES PATENT OFFICE.

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BURNER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. YATES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Burners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in burners for alcohol gas.

One object of the invention is to provide a burner of this character having an improved means for adjusting the wick whereby the flame of the burner is controlled.

Another object is to provide a burner which will be simple, strong and durable in construction, efficient and reliable in operation and well adapted to the purpose for which it is designed.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side view of a burner constructed in accordance with the invention; Fig. 2 is a central vertical sectional view of the same; Fig. 3 is a horizontal section on the line 3-3 of Fig. 2; Fig. 4 is a similar view on the line 4-4 of Fig. 2.

My improved burner comprises a tubular body portion 1, the upper and lower ends of which are preferably flared outwardly, as shown. Secured in the upper portion of the body 1, is a centrally disposed guide tube 2 which projects upwardly a suitable distance in the upper portion of the body. The tube is secured at its lower end in a transverse partition 3 which is arranged in the body portion and separates the upper and lower portions of the latter. The lower end of the body portion 1 is closed by a bottom plate 4 which is secured thereto in any suitable manner and is provided with a centrally disposed aperture 5, the purpose of which will hereinafter appear. Adapted to be engaged with the upper end of the body portion 1, is a burner cap 6, in the sides of which is formed a series of perforations 7 through which the gases from the alcohol, or other fluid, burn.

Slidably mounted in the tube 2 and projecting into the lower portion of the body 1, below the partition 3, is a wick supporting and carrying tube 8, the lower end of which is adapted to work through the aperture 5 in the bottom plate 4. On one side of the lower portion of the tube 8 is secured a rack 9, with which is engaged a pinion 10 secured to the inner end of a wick raising and lowering shaft 11 journaled in a suitable bearing 12 arranged in the lower portion of the body 1, as shown. The outer end of the shaft 11 projects a suitable distance from the outer side of the burner and is provided with a head or other suitable means for revolving the shaft.

Arranged around the outer side of the body 1, slightly above the center of the burner, is an annular gutter or starting cup 13 which is adapted to receive a small quantity of the alcohol or other fluid which is ignited in said gutter to provide for the preliminary heating or priming of the burner. The gutter 13 has connected thereto the upper end of an alcohol or fluid conducting pipe 14 which extends downwardly into the bowl or font of the lamp and through which the alcohol or other fluid may be forced up into the gutter in any suitable manner.

In arranging the burner for use, the wick which is solid as shown is inserted in the tube 8 with its upper end projecting slightly above the top of the latter. By turning the shaft 11 the tube 8 is moved up to the desired position for bringing the upper end of the wick into engagement with the heated cap 6, which latter forms a flat horizontal top for the hollow body of the burner. By reason of the engagement of the wick with the top or cap 6, the alcohol is caused to be brought up to the top of the wick and vaporized by the heat to form a gas which passes out through the perforations in the cap and is ignited. When it is desired to reduce the flame, the upper end of the wick is disengaged from the hot burner cap by lowering the wick tube 8, thus reducing the amount of gas produced and thereby lowering the flame.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion

and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claims.

Having thus described my invention, what I claim is:

1. In a burner of the character described, a hollow body portion, a guide tube arranged in the upper portion of said body, a wick supporting and carrying tube slidably mounted in said guide tube, means whereby said wick supporting tube is raised and lowered to adjust the wick in the burner, a starting cup arranged on the exterior of said body portion and a supply pipe connected at its upper end to said cup and adapted to extend down into the lamp to which the burner is applied.

2. In a burner of the character described,

a hollow body portion, having flared upper and lower ends, a bottom plate arranged on said lower end, a perforated cap arranged on said upper end, a guide tube secured in said body portion, a wick tube slidably mounted in said guide tube, means to raise and lower said wick tube, an annular gutter arranged around said body portion and adapted to contain a burning fluid for the preliminary heating of the burner, and a supply pipe connected at its upper end to said gutter and adapted to extend down into the lamp to which the burner is applied.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES A. YATES.

Witnesses:

HARRISON GRISWOLD,
VESTA K. HERTEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."